

California Regional Water Quality Control Board

San Diego Region

**Total Nitrogen and Total Phosphorus
TMDL for Rainbow Creek**

**Response to Public Comments from
Public Hearing on December 8, 2004 and Written
Comments Submitted on/before December 29, 2004.**

January 27, 2005

1) ALGAE GROWTH

a) Comment from the California Avocado Commission 12/01/04:

It also appears that an alternative strategy of providing riparian cover in areas now affected by algal blooms may almost entirely solve the problem. These alternatives should be fully explored by the Board.

Regional Board Response:

This comment was addressed in the Draft Technical Report, Appendix M, Response to Public Comments, Public Hearing on May 8, 2002. See response #39.

b) Comment from the California Avocado Commission 12/01/04:

In areas where Rainbow Creek is open to sunlight, re-vegetation efforts should be made. Development of a new, vegetative canopy would retard algal growth, the driving force behind the establishment of the numeric water quality objectives in the TMDL. As noted above, without the presence of an algal bloom the development of a numerical objective for nutrient levels is unjustified.

Regional Board Response:

This comment was addressed in Appendix M of the Draft Technical Report, Response to Public Comments, Public Hearing on May 8, 2002. See response #64.

c) Comment from the California Avocado Commission 12/01/04:

The TMDL draws a clear link between existing levels of total nitrogen and total phosphorus (biostimulatory substances) in surface waters and algal growth. Without the latter, the Board lacks justification for the TMDL. Yet the evidence from recent water quality sampling, on which the TMDL is based, fails to make a convincing case that the numerical levels actually result in algal blooms that constitute a "nuisance" or "adversely affect beneficial uses" (see pages 21-23).

Regional Board Response:

The Regional Board disagrees with this comment. The justification for the Rainbow Creek TMDL is that the nitrogen and phosphorus concentrations are above the water quality objective for Municipal Water Supply and Biostimulatory Substances.

The Regional Board's most recent water quality sampling (December 2004) from Rainbow Creek shows nitrogen concentrations nearly double of any sample collected in 2000. Water quality objectives are developed for the protection of beneficial uses. Therefore any exceedance of the water quality objectives is considered to be an adverse affect on the designated beneficial uses.

d) Comment from the California Avocado Commission 12/01/04:

If algae, at the peak of its growth, does not create a nuisance or affect beneficial uses (thereby calling into question the validity of the entire TMDL), then rejection of a seasonal nutrient differential is even more unfathomable.

Regional Board Response:

The water quality objectives, and hence the numeric targets, do not have seasonal differential. Seasonal variation was accounted for by the use of flow tiers in examining the Creek flow data in calculating the nutrient loading and background capacity. See Appendix F of the Draft Technical Report.

2) ATMOSPHERIC DEPOSITION

a) Comment from the California Avocado Commission 12/01/04:

In the Source Assessment of the TMDL, the Board determined that atmospheric deposition of nutrients should be constrained to the creek surface area (see Section 4.0). By constraining the calculation to the creek area, the estimate of nutrient loading from atmospheric deposition is artificially low.

Regional Board Response:

Atmospheric deposition is accounted for in two ways: Section 4.1.3 calculates the portion that is deposited directly into the creek and Section 4.1.1 calculates the portion that is deposited to land. This is explained in Section 4.1.3 of the Draft Technical Report as quoted below (underline added for emphasis):

“Air pollutants are deposited to the earth, in most cases directly to a water body or to a land area that drains into a water body. These pollutants are deposited by wet or dry deposition. In wet deposition, pollutants are removed from the air by a precipitation event such as rain. Dry deposition occurs when particles settle out of the air and onto surfaces. Total nitrogen loads from atmospheric deposition are most significant in large lakes or reservoirs when the waterbody is large compared to the total watershed area (USEPA 1999). In the Rainbow Creek watershed, nutrient loads from atmospheric deposition are not likely to be significant as compared to other sources, because the surface area of the creek is small compared to the area of the watershed. Atmospheric deposition is calculated using water surface area only, since total nitrogen depositions on land are included in the nutrient export coefficients. Atmospheric deposition loads to Rainbow Creek were estimated using established atmospheric deposition rates.”

b) Comment from the California Avocado Commission 12/01/04:

Remarkably, the draft TMDL omits any discussion of those reports in the scientific literature that speak to the significance of atmospheric deposition and whether land use export coefficients adequately address the calculation of loadings.

Regional Board Response:

The Rainbow Creek TMDL Draft Technical Report has undergone 2 formal peer reviews and also been reviewed by the USEPA and at no time did any of the reviewers recommend export coefficients they deemed more accurate. Several

comments were submitted by the public that was critical of the Regional Board's selection of export coefficients but, again, no alternative export coefficients were specifically recommended.

Furthermore, the USEPA submitted the following statement in a letter dated December 3, 2004:

“The proposed TMDLs meet all federal regulatory requirements and will be approvable when they are submitted to EPA. The TMDLs are based on sound analytical methods that identify reasonable pollutant reductions necessary to attain the existing Basin Plan numeric water quality objectives.”

c) *Comment from the California Avocado Commission 12/01/04:*

It is our concern that a potentially significant source—one beyond the control of any entity within the Rainbow Creek watershed—could possibly explain a significant portion of the nutrient loading in Rainbow Creek.

Regional Board Response:

See Regional Board Comment Response 2a of this document

d) *Comment from Hines Nurseries 12/01/04:*

Unfortunately, the source assessment for the proposed Total Nitrogen and Total Phosphorus TMDL for Rainbow Creek is incomplete and inadequate. It all but ignores indirect atmospheric deposition.

Regional Board Response:

See Regional Board Comment Response 2a of this document.

e) *Comment from Hines Nurseries 12/01/04:*

Hines recommends that the Regional Board invite researchers from SCCWRP and UCLA to conduct a workshop for Board members, Board staff, and the regulated community on the relationship of atmospheric deposition to water quality, with emphasis on atmospheric deposition of nutrients.

Regional Board Response:

Comment noted.

3) ECONOMICS

a) *Comment from Caltrans 12/07/04:*

In addition, since the necessary controls have not been identified, the TMDL cannot show how the benefits justify the cost.

Regional Board Response:

The Implementation Action Plan section is intentionally written to give the stakeholders the flexibility to develop what they feel as cost effective nutrient

management measures to address the impairment of Rainbow Creek. Under Water Code Section 13360, the Regional Board may not specify the design, location, type of construction, or particular manner of compliance with waste discharge requirements or other orders, and dischargers can comply “in any lawful manner.” This restriction is a shield against unwarranted interference with the ingenuity of the party subject to waste discharge requirements, who can elect between available strategies to comply with the standard.

CEQA’s provisions require that the Regional Board perform an environmental analysis of the reasonably foreseeable methods of compliance with the wasteload and load allocations. The Regional Board must consider the economic costs of the methods of compliance in this analysis; however, the Regional Board is not required to do a formal cost-benefit analysis. The Regional Board did perform an environmental analysis of the reasonably foreseeable methods of compliance in Section 11.4 of the Draft Technical Report of typical BMPs to reduce nutrient discharges from state highways. Estimated costs for implementing these BMPs are provided in Section 12 of the Draft Technical Report.

b) Comment from Caltrans 12/07/04:

Table 4-2 in the report shows the total annual nitrogen load for the watershed to be 3,868 kg N/yr. The total volume of flow in the creek is $58,539 \times 10^6$ cf /yr. This is equivalent to an average annual concentration of 2.33 mg/L within the creek. The monitoring data in Appendix B shows average concentrations with the creek to be 9.6 mg/L, 14.5 mg/L and 14.7 mg/L for 2000 monitoring. This means that the sources for between 75% and 85% of the nitrogen load to the creek have not been identified. This discrepancy casts doubt on the load allocation as well as the likelihood that the proposed measures will result in significant improvement to water quality in Rainbow Creek.

Regional Board Response:

This comparison is inappropriate because the total load in Table 4-2 is based in part on export coefficients while the data in Appendix B is actual monitoring data. Therefore the difference between the two methods of calculation suggests that the additional data collection planned during implementation will be useful to refine the current loading estimates. In addition, the analysis in the comment, a comparison of averages, does not take into account the fact that the infrequent but significant high flow periods account for much of the total load.

c) Comment from Caltrans 12/07/04:

The costs presented in Appendix H uses a Caltrans drainage area of 214 acres rather than the 120 acres used in the TMDL report. The cost suggests the use of sediment basins for treatment at a cost as low as \$700. The Caltrans BMP Retrofit Pilot Program Final Report (http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/pdfs/new_technology/CTSW-RT-01-050.pdf) found that the cost for sediment basins in a retrofit situation range from \$303 to \$1,307 per WQV m³. This would be a cost of \$602,000 to \$2,586,000 to

treat the 1,986 m³ of WQV for the 4.1 miles of I-15 in this watershed. Cost for sand filters range from \$748 to \$2,118 per WQV m³. (\$1,486,000 to \$4,206,000 to treat 1,986 m³ of WQV)

Regional Board Response:

The cost estimates submitted by Caltrans have been incorporated into Section 12 and Appendix H.

The acreage for the Interstate 15 corridor has been corrected in the revised Draft Technical Report. The correct value is 120 acres.

d) Comment from the California Avocado Commission 12/01/04:

Compliance with the TMDL is estimated to cost from a low of \$18,565,000 to a high estimate of \$41,772,000 not including costs associated with individual agricultural operations. Assuming a high cost of \$57,705 for each orchard, avocado production in the Rainbow Creek watershed could be rendered economically infeasible.

Regional Board Response:

The Implementation Action Plan section is intentionally written to give the stakeholders the flexibility to develop what they feel as cost effective nutrient management measures to address the impairment of Rainbow Creek. Under Water Code Section 13360, the Regional Board may not specify the design, location, type of construction, or particular manner of compliance with waste discharge requirements or other orders, and dischargers can comply “in any lawful manner.” This restriction is a shield against unwarranted interference with the ingenuity of the party subject to waste discharge requirements, who can elect between available strategies to comply with the standard.

CEQA’s provisions require that the Regional Board perform an environmental analysis of the reasonably foreseeable methods of compliance with the wasteload and load allocations. The Regional Board must consider the economic costs of the methods of compliance in this analysis; however, the Regional Board is not required to do a formal cost-benefit analysis.

The Regional Board can adopt TMDLs and other types of Basin Plan amendments despite significant economic consequences. In the Rainbow Creek Draft Technical Report the Regional Board has clearly explained why the TMDL is necessary and provided extensive information on the sensitivity of the receiving waterbody, water quality problems caused by excessive nutrient loading and public health implications.

The estimated capital costs for orchards ranges from \$10,105 to \$57,705. The implementation actions are to be implemented over a period of 16 years. This should allow ample time to implement needed nutrient reduction measures in a

phased approach, monitor effectiveness, and adjust the program as necessary to maximize efficiency and minimize costs.

Sources of potential funding for Rainbow Creek TMDL projects are listed in Section 12.3 of the Draft Technical Report.

e) *Comment from Richard Watson 12/08/04:*

Tentative Finding 17 claims that the Regional Board has considered costs of implementing the amendment. However, the costs for commercial nurseries are understated, and the economics analysis does not comply with California Water Code Section 13241.

Regional Board Response:

Water Code Section 13241 establishes the requirements attendant to the Regional Boards' adoption of water quality objectives. A TMDL normally is, in essence, an interpretation or refinement of an existing water quality objective. TMDLs are designed to attain water quality objectives and are not intended to re-balance the policy interests defined by Water Code Section 13241 that underlie the water quality objective. A TMDL implements existing water quality objectives; it does not create new objectives. Therefore, section 13241 does not apply to development of a TMDL.

The Regional Board documented the estimated costs to commercial nurseries for implementation of the “reasonably foreseeable methods of compliance” as required by CEQA and provided the information in Section 12 of the Draft Technical Report. The cost data was based primarily on information contained in “Calleguas Creek Watershed and Erosion Control Plan for Mugu Lagoon. USDA, May 1995.” and is a reasonable estimate of the cost impacts of the Rainbow Creek TMDL on commercial nurseries.

f) *Comment from the County of San Diego 12/28/04:*

Consequently, waiting until after the TMDL is approved to develop the required costs/benefits analyses will only guarantee that such analyses amount to little more than post hoc rationalizations in support of orders that are, in fact, a fait accompli.

Regional Board Response:

This comment was in reference to the Regional Board’s issuance of a CWC §13225(c) order for a Nutrient Reduction Management Plan.

CEQA’s provisions require that the Regional Board perform an environmental analysis of the reasonably foreseeable methods of compliance with the wasteload and load allocations prior to adopting a TMDL Basin Plan amendment. The Regional Board must consider the economic costs of the reasonable foreseeable methods of compliance in this analysis; however, the Regional Board is not required to do a formal cost/benefit analysis for the adoption of a TMDL. The

Regional Board has provided the results of this analysis, including an estimate of the costs that might be incurred by the County of San Diego in preparing reports and overseeing nutrient reduction efforts described in the TMDL in Section 12 of the Draft Technical Report.

The Regional Board is required under CWC §13225 to provide a written justification showing that the burden, including costs of preparing a report required under CWC §13225 bears a reasonable relationship to the need for the report. However the requirement to produce the written justification is not triggered until the CWC §13225 order requiring the report is issued to the County of San Diego at some time subsequent to the adoption of the TMDL.

The details of the MAA and NRMP are scheduled to be worked out after TMDL adoption. The Regional Board will provide a written justification addressing the issue of the burden of the reports bearing a reasonable relationship to the benefits attained at the time the CWC §13225(c) order is issued.

4) EXPORT COEFFICIENTS

a) Comment from the California Avocado Commission 12/01/04:

It is clear from Dr. Boynton's comments above that he has serious doubts about the applicability of the export coefficients identified in the study to local conditions in a completely different geographic area, here Rainbow Creek. There is no valid scientific basis, therefore, for the Board's use of 2.5 kg/ha/yr for Total Nitrogen and 0.2 kg/ha/yr for Total Phosphorus for the orchard land use category in the TMDL.

Regional Board Response:

This comment was addressed in Section 11.3 of Draft Technical Report, Analysis of Public Comments on Technical Issues. See Section 11.3.3 and 11.3.7.

The USEPA submitted the following statement in a letter dated December 3, 2004:

“The proposed TMDLs meet all federal regulatory requirements and will be approvable when they are submitted to EPA. The TMDLs are based on sound analytical methods that identify reasonable pollutant reductions necessary to attain the existing Basin Plan numeric water quality objectives.”

Furthermore, in the development of this nutrient TMDL, local experts were a part of the Technical Advisory Committee and reviewed sections of the Draft Technical Report as it was drafted. See Section 13.0, Public Participation, for a list of participants and Appendix I, List Events, for a list of meeting dates and topics. In addition to the TAC members, other local scientists, such as scientists from the Southern California Coastal Water Research Project (SCCWRP) and other Regional and State Water Board staff, were also consulted on specific

nutrient issues, including the use of export coefficients and nutrient water quality objectives.

b) Comment from the California Avocado Commission 12/01/04:

There is no specific export coefficient value for avocados. Avocado nutrient load allocations should be based on specific information that takes into account grower practices and resulting contributions to the TMDL. Otherwise, avocado growers are unfairly burdened with an allocation that is excessive or beyond their ability to control.

Regional Board Response:

This comment was addressed in Appendix M of the Draft Technical Report, Response to Public Comments, Public Hearing on May 8, 2002. See response #44. Also see Section 11.3.7 of the Draft Technical Report. .

c) Comment from the California Avocado Commission 12/01/04:

Section 11.3.3 of the TMDL purports that the export coefficient selected for the orchard land use category (among others) is appropriate (see page 101). This claim is unsubstantiated, however, as evident from the following statement in the TMDL:

“The Regional Board recognizes it is difficult to calculate nutrient loadings from non-point sources with precision and acknowledges that *the development of nutrient loads from NPS discharges is characterized by uncertainties*” (emphasis added).

Regional Board Response:

The Regional Board agrees with the above quote – that it is difficult to calculate non-point source nutrient loading and that there are uncertainties. However that does not preclude moving forward with development and adoption of a TMDL using the available data. Also see Response #44 in Appendix M and Section 11.3.7 of the Draft Technical Report.

The USEPA submitted the following statement in a letter dated December 3, 2004:

“The proposed TMDLs meet all federal regulatory requirements and will be approvable when they are submitted to EPA. The TMDLs are based on sound analytical methods that identify reasonable pollutant reductions necessary to attain the existing Basin Plan numeric water quality objectives. The TMDLs are consistent with numerous nutrient TMDLs developed elsewhere in California, including the TMDLs for Los Angeles River, Laguna de Santa Rosa, and Malibu Creek. We are pleased that the TMDLs include waste load allocations to account for future growth in the watershed.”

d) Comment from Richard Watson 12/08/04:

Instead, staff attempted to use inappropriate export coefficients to estimate loads.

Regional Board Response:

See Regional Board Comment Responses 4a, 4b, and 4c of this document.

e) Comment from Richard Watson 12/08/04:

Furthermore, the allocations for commercial nurseries and other nonpoint sources were based on misapplication of export coefficients.

Regional Board Response:

See Regional Board Comment Responses 4a, 4b, and 4c of this document.

f) Comment from Hines Nurseries 12/01/04:

The export coefficients for agriculture were based on mass emissions monitoring of one field in Ventura County. The crude estimate is not an appropriate basis to estimate loads to be used in a regulatory document such as a TMDL.

Regional Board Response:

See Regional Board Comment Response 4a, 4b, and 4c of this document.

g) Comment from Hines Nurseries 12/01/04:

For the subject TMDL, coefficients should be developed for inland San Diego County commercial nurseries, field agriculture, and orchards. The coefficients used in the SCCWRP study may have been appropriate for a regional study or coastal waters. However, they are not appropriate for a regulatory document such as a TMDL. Additional research is required to develop appropriate coefficients.

Regional Board Response:

See Regional Board Comment Response 4a, 4b, and 4c of this document.

5) IMPLEMENTATION PLAN

a) Comment from the County of San Diego 12/08/04:

The County very much appreciates the fact that since May 2002 Regional Board staff has demonstrated a willingness to work with the County in moving this TMDL forward, but we are also extremely concerned that the proposed schedule of February 2005 adoption does not provide sufficient time to fully resolve many of the outstanding issues raised by the County and others. We are therefore requesting you not close the public testimony on this matter at the conclusion of your December 8, 2004 meeting, and that you direct staff to work within a more realistic schedule for final adoption.

Regional Board Response:

The Regional Board held a public hearing on December 8, 2004, to consider public comment and testimony on the proposed TMDL. At the conclusion of the hearing the Board left the record open for submission of additional written comments for three weeks until December 29, 2004. The Regional Board has provided an ample period for the County of San Diego to review and comment on the proposed TMDL and will be considering adoption of the TMDL at the February 9, 2005 Regional Board meeting.

b) Comment from Hines Nurseries 12/01/04:

We, and the other members of the regulated community, deserve to see any revised Implementation Plan and have a chance to comment on it before the public hearing on the proposed TMDLs is closed.

Regional Board Response:

The Regional Board held a public hearing on December 8, 2004 to consider public testimony and comment on the Rainbow Creek TMDL following a reasonable period for review of the tentative proposal. In the course of the public review period prior to the hearing the Regional Board also conducted a workshop on November 17, 2004 to stimulate public understanding and discussion of potential issues that might be considered in the TMDL public review process. At the conclusion of the December 8 hearing, the Regional Board left the record open for submission of additional written comments for three weeks until December 29, 2004. The Regional Board has clearly provided an ample period for the public to review and comment on the proposed TMDL. Based on these considerations it would not be unreasonable for the Regional Board to restrict additional public commentary on the proposed TMDL Basin Plan Amendment when the Board considers its adoption on February 9, 2005.

On February 9 the Regional Board will be considering 1) the written responses to public comments document developed by Board staff; 2) revisions to the proposed TMDL Basin Plan amendment made as a logical outgrowth of the record developed at the December 8 hearing and the subsequent December 29, 2004 public comment period and 3) adoption of the TMDL Basin Plan Amendment. On February 9 the Board will evaluate if any revisions to the Basin Plan Amendment might qualify as sufficiently significant to merit an additional opportunity for public review and comment. Based on this evaluation the Board may, at their discretion, allow interested persons to make oral comment on the proposed changes and proceed with adoption on February 9 or circulate the modified proposal and any additional documentation for an additional structured period of public review.

The revised Draft Technical Report will be made available to the public by posting the edited version on the Regional Board's website.

c) Comment from Hines Nurseries 12/01/04:

As presented in the Public Review Draft, the Implementation Plan is extremely prescriptive and inflexible.

Regional Board Response:

This comment was addressed in Appendix M of the Draft Technical Report, Response to Public Comments, Public Hearing on May 8, 2002. See response #17 and #22.

Flexibility is provided in the TMDL Implementation Plan, for dischargers to either participate in an acceptable third party Nonpoint Source control programs or, alternatively, submit individual pollution prevention plans that detail how they will comply with the WDRs.

d) *Comment from Hines Nurseries 12/01/04:*

The Implementation Plan could either be delayed or revised to be an adaptive management plans to be reassessed periodically based on a monitoring program to assess progress in achieving the water quality objectives in the Basin Plan.

Regional Board Response:

This comment was addressed in both Responses #22 of Appendix M and Section 11.3.7 of the Draft Technical Report, Response to Public Comments, Public Hearing on May 8, 2002

e) *Comment from the California Avocado Commission 12/27/04:*

In light of that reality, the Commission proposes that the Board allow for direct participation in the implementation process by a team consisting of representatives from the Commission, University of California Cooperative Extension (UCCE), the Mission Resource Conservation District (MRCD), the San Diego County Farm Bureau, the County, and RWQCB Staff.

Regional Board Response:

The UCCE, MRCD, Farm Bureau, and the County are already members of the Technical Advisory Committee for this TMDL and have been participants in the development process. See Section 13.0, Public Participation, from the Draft Technical Report for a complete list of committee members. We look forward to those entities, along with the California Avocado Commission, participating in the implementation process.

Section 9.5, item 6 of the TMDL Implementation Action Plan provides for the Regional Board to consider entering into a Memorandum of Understanding (MOU) to document cooperative agreements with agencies or organizations, such as those cited by the commenter, that are able to provide information, technical assistance, or financial assistance to dischargers to support the Regional Board's goals of attaining the nutrient load reductions required under this TMDL. Formalizing these arrangements in a MOU with the Regional Board would also assist the various agencies and districts in targeting technical and financial resources for Rainbow Creek nutrient NPS problems.

f) *Comment from the California Avocado Commission 12/27/04:*

We would be extremely pleased if the RWQCB staff would conduct a field tour of the watershed with representatives of affected parties in the watershed so that we can share ideas before we undertake mitigation measures to address any adopted TMDL.

Regional Board Response:

Comment noted. The Regional Board conducted a site visit in 2002 with representatives from the County, Hines Nursery, SDSU, MRCD, and the Dept. of Agriculture. The Regional Board would be willing to participate in other such events as the TMDL moves into the implementation phase.

g) *Comment from the Farm Bureau 12/24/04:*

We see the County of San Diego, the University of California Cooperative Extension Service, the Mission Resource Conservation District, and trade groups such as the California Avocado Commission as important partners in this effort.

Regional Board Response:

The Regional Board agrees. See Regional Board Comment Response 5e above.

6) LEGAL ISSUESa) *Comment from the County of San Diego 12/08/04:*

The County is also concerned about staff's proposed use of Water Code Section 13225(c) to require activities we consider to be beyond investigating or reporting on "technical factors involved in water quality control". In particular, the County maintains that Section 13225(c) cannot and should not be used to require submission by the County of a Nutrient Reduction Management Plan.

Regional Board Response:

The Nutrient Reduction Management Plan is clearly within the scope of reports that the Regional Board can require the County to submit under the authority of CWC §13225. CWC §13225 provides authority for the Regional Board to require local agencies such as the County of San Diego to submit draft technical reports on water quality control, even though those entities may not be waste dischargers. Local agencies can be required to investigate the scope, causes, and sources of nonpoint source pollution, and potential practices or control measures to prevent it. The only restriction is that the burden of preparing the reports bears a reasonable relationship to the need for and the benefits to be obtained from the reports.

Section 9.7, which describes the development of the NRMP, has been revised to clarify that the County will review its legal authority and evaluate its adequacy to mandate compliance with nutrient load reductions specified in this TMDL through ordinance, statute, permit, contract, or similar means. Section 9.7 was also revised to clarify that, for the various elements listed for the NRMP, the County will evaluate the necessity of modifying, and their willingness to modify, the activities listed therein.

The Regional Board understands its obligation under CWC §13225 to provide a written justification to the County of San Diego showing that the burden,

including costs of preparing the NRMP report bears a reasonable relationship to the need for the report. The Regional Board will provide the written justification when the CWC §13225 order requiring the NRMP report is issued to the County of San Diego following adoption of the TMDL.

Further discussion on CWC §13225(c) can be found in Appendix M of the Draft Technical Report, Response to Public Comments, Public Hearing on May 8, 2002. See response #17.

b) *Comment from the County of San Diego 12/08/04:*

Regional Board staff must demonstrate that the burden, including costs, of required investigations or reports bears a reasonable relationship to the need for them and the benefits to be obtained. Staff has indicated that this burden will be met not in the TMDL, but instead in the 13225(c) letter requiring such activities. This is problematic to the extent that detailed water quality investigations or monitoring are currently required within the TMDL document.

Regional Board Response:

The Regional Board has described in some detail in the Implementation Action Plan, Sections 9.6 and 9.7, and the Implementation Monitoring Plan, Section 10.5, the various elements, or additional or alternative elements, and technical information that the Regional Board will require the County of San Diego to include in the NRMP, the Groundwater Investigation and Characterization Report and the Implementation Monitoring Plan. CEQA's provisions require that the Regional Board perform an environmental analysis of the reasonably foreseeable methods of compliance which would include the Regional Board's requirement for the County to submit an NRMP, a Groundwater Investigation and Characterization Report and an Implementation Monitoring Plan. The Regional Board has provided the results of this analysis, including an estimate of the costs that might be incurred by the County of San Diego in preparing the reports in Section 12, Economic Considerations, of the TMDL Draft Technical Report.

The Regional Board is not required to provide the CWC §13225 justification (that the burden, including cost, of the reports requested bears a reasonable relationship to the need for the report) in the Basin Plan Amendment itself for CWC §13225 orders the Board plans to issue in the future. As described in previous responses the Regional Board will provide the written justification - that the burden, including cost, of the report requested bears a reasonable relationship to the need for the report – when the CWC §13225 order requiring the reports is issued to the County of San Diego following adoption of the TMDL.

c) *Comment from Hines Nurseries 12/01/04:*

In addition to the misstatement from the Basin Plan, the listing was based on erroneous interpretation of Section 303(d)(1)(A) of the CWA. Both the Regional Board and the State Board appear to have thought that all impaired waters must be included on the 303(d) list. Actually, only water "for which the effluent

limitations required by Section 301(b)(1)(A) and Section 301(b)(1)(B) of this title are not stringent enough to implement any water quality standards..." are required to be included on the 303(d) list.

Regional Board Response:

Rainbow Creek has been included on the State's current list of impaired water bodies that was promulgated following the requisite hearings and opportunities for public participation, and has been approved by U.S. EPA as the list required to be prepared by CWA 303(d). Whether or not Rainbow Creek falls within the requirements of CWA 303(d) does not alter the fact that the state has determined that the quality of the waters of Rainbow Creek have been impaired, and has elected to develop a TMDL in order mitigate or alleviate the impairment. The TMDL process is not the correct forum to challenge the listing criteria that has placed Rainbow Creek on the list of impaired water bodies.

Sections 303(d)(1)(C) and (d)(1)(D) require the states to establish TMDLs for listed waters. Section 303(d)(2) requires states to submit the 303(d) list and TMDLs for listed waters to EPA for approval. Even if Rainbow Creek were not on the 303(d) list, Section 303(d)(3) requires states, for information purposes, to establish TMDLs for all waters that are not listed on the 303(d) list. Thus, under the federal statute, all waters must have TMDLs for all pollutants being discharged into them.

d) *Comment from Hines Nurseries 12/01/04:*

USEPA's regulations clearly state that a water quality limited segment is one where water quality standards are not expected to be met "even after the application of technology-based effluent limitations required by section 301(b) and 306 of the Act." Technology-based solutions had already greatly reduced nitrogen and phosphorus loads by 2002 and continued application of best management practices could be expected to bring Rainbow Creek into compliance with the numeric nitrate water quality objective and the narrative biostimulatory substances water quality objective in the Basin Plan.

Regional Board Response:

This comment was addressed in Appendix M of the Draft Technical Report, Response to Public Comments, Public Hearing on May 8, 2002. See response #62.

e) *Comment from the County of San Diego 12/28/04:*

First, as described further below (comment A.6), we believe that the RWQCB has exceeded the authority granted it under CWC §13225(c) by imposing a requirement for the County to submit and implement a NRMP.

Regional Board Response:

Section 9.6 County of San Diego Actions, has been revised to clarify that the County, pursuant to CWC §13225(c), will be required to submit a NRMP.

However the County's commitment and level of effort to implement the NRMP will be voluntary and addressed within the proposed Management Agency Agreement (MAA) described in Section 9.5, Item 3 of the Implementation Action Plan.

f) *Comment from the County of San Diego 12/28/04:*

As stated in its December 8 letter, the County has consistently maintained its willingness to voluntarily submit a NRMP. However, we respectfully disagree that CWC §13225(c) can reasonably be interpreted to authorize the RWQCB to compel the County to do so.

Regional Board Response:

See Regional Board Response 6a, b, and e of this document.

g) *Comment from the County of San Diego 12/28/04:*

The statute authorizes the RWQCB to require the County to investigate, report on and analyze water quality factors, but those terms do not describe the NRMP.

Regional Board Response:

See Regional Board Response 6a, b, and e of this document.

h) *Comment from the County of San Diego 12/28/04:*

As this language demonstrates, the NRMP does not consist of investigation and analysis; it consists almost entirely of policing, oversight and management. In short, the NRMP is precisely what its name implies - a plan for the reduction and management of nutrients. CWC §13225(c) does not authorize the imposition of such a plan.

Regional Board Response:

See Regional Board Response 6a, b, and e of this document.

i) *Comment from the County of San Diego 12/28/04:*

On a related note, even in those instances where §13225(c) authorizes the RWQCB to require certain investigations or analyses, e.g., for water quality investigations or monitoring, the statute requires that the burden, including costs, of those investigations or analyses bear a reasonable relationship to the benefits to be obtained. The County submits that such a costs/benefits analysis must be provided in writing, and must identify the evidence supporting the analysis, before the identified investigations or analyses may be required.

Regional Board Response:

The Regional Board will provide a written justification that the burden of the reports, including cost, of the report requested, bears a reasonable relationship to the to the need for the report when the CWC §13225(c) order requiring the reports is issued to the County of San Diego following adoption of the TMDL. CWC §13225(c) does not require a detailed cost/benefit analysis.

j) Comment from the County of San Diego 12/28/04:

The County believes the written, evidence-supported costs/benefits analysis for the §13225(c) orders referenced in the TMDL should be included in the text of the TMDL. While TMDL Section 12.2 does provide some very basic information on implementation costs, this analysis is clearly not sufficient to meet these § 13225(c) obligations.

Regional Board Response:

See Regional Board Responses 6a, b, e, and i of this document.

k) Comment from the County of San Diego 12/28/04:

Section 13225(c) orders should only be issued with a clear understanding of how the benefits of the required investigations justify their costs.

Regional Board Response:

Controlling and reducing nutrient discharges in the Rainbow Creek watershed to meet the TMDL nutrient load reductions for nonpoint sources will be a long term and complicated undertaking. There are multiple sources of nutrients in the watershed in seven different land use categories with an array of agencies and dischargers whose actions need to be coordinated. MMs and MPs need to be identified and implementation tracked and monitored. Water quality levels in Rainbow Creek need to be monitored and assessed to determine the effectiveness of the nutrient load reduction efforts, water quality trends, and success in attaining water quality objectives. See Sections 8.3.1, 8.4.1, 10.1, and 10.2 of the TMDL Draft Technical Report and Regional Board Responses 6a, b, e, and i of this document.

7) LOAD ALLOCATIONS

a) Comment from the California Avocado Commission 12/01/04:

Our analysis of the draft TMDL leads us to conclude that the allocation of nutrient loads to orchards (and avocado production in particular) is not founded on sound science.

Regional Board Response:

See Regional Board Response 4c of this document.

b) Comment from the California Avocado Commission:

Prior to the establishment of target nutrient levels for avocado growers, stream monitoring should occur to identify all sources contributing to the nutrient load.

Regional Board Response:

Source identification from all the potential nutrient sources is part of the NRMP. See Section 9.7, item 7 of the Draft Technical Report.

c) Comment from Caltrans 12/07/04:

The TMDL has a schedule of 16 years to meet the load allocations, however the Department is expected to meet the waste load allocations in 8 years. The Department requests 20% waste load reduction every 4 years as is shown for load allocations due to the fact there is currently no BMP technology that will reduce nitrogen and phosphorus concentrations to the proposed levels.

Regional Board Response:

The schedule for Caltrans has been revised and extended to 16 years.

d) Comment from Caltrans 12/07/04:

Why is Caltrans assigned 74% (N) and 58% (P) reductions when “urban areas” with similar or possibly more heavily loaded runoff are assigned only 50% reductions.

Regional Board Response:

The current annual nutrient load from Urban Areas is small in comparison to the other land use categories therefore the potential of significant nutrient reductions is also small in comparison to the other land use categories.

The rationale for the load and wasteload allocations can be found in Appendix F of the Draft Technical Report.

e) Comment from Hines Nurseries 12/01/04:

There is no basis to determine a load allocation or a waste load allocation (i.e., there is no basis to develop a TMDL) where the assimilative capacity of the water body has not been established. Hines would thus recommend that additional monitoring and a study of the assimilative capacity of the various reaches of the creek be conducted before adopting the subject TMDL, as the assimilative capacity of the water body is the cornerstone of any properly developed TMDL.

Regional Board Response:

This comment is addressed in Appendix M of the Draft Technical Report, Response to Public Comments, Public Hearing on May 8, 2002. See response #49.

f) Comment from Hines Nurseries 12/01/04:

The TMDL continues to establish annual load allocations for commercial nurseries for both nitrogen and phosphorus (see Table 6-1 and 6-2) that are both unrealistic and unobtainable. The data and analysis in the TMDL simply do not support the load allocations developed for commercial nurseries.

Regional Board Response:

This comment was addressed in Section 11.3 of Draft Technical Report, Analysis of Public Comments on Technical Issues. See Issue 11.3.2.

g) Comment from the County of San Diego:

The County has no specific objection to the assignment of a WLA for those portions of the Rainbow Creek Watershed tributary to its MS4. However, as is evidenced in the attached maps, the presence of an MS4 in this Watershed is limited and often not continuous.

Regional Board Response:

Comment noted.

8) MANAGEMENT AGENCY AGREEMENTS

a) Comment from the County of San Diego 12/08/04:

While the County agrees in principle that a negotiated agreement such as a MAA may be a useful means of achieving this objective, we have not had sufficient time to fully consider the implications of such an agreement, or to discuss the specifics of what both agencies envision the document containing.

Regional Board Response:

Sections 8, 9, and 10 of the TMDL Draft Technical Report provide specifics on the actions and tasks the Regional Board believes will address nutrient control and reduction in Rainbow Creek. The overall purpose of the Management Agency Agreement (MAA) is to document commitments and clarify roles and responsibilities of the Regional Board and the County of San Diego over the next 20 years in overseeing implementation of the TMDL until compliance with the nutrient water quality objectives is attained. The MAA will enhance the effectiveness of the proposed partnership of the County of San Diego and the Regional Board; however the TMDL Basin Plan Amendment does not require the County to enter into a MAA with the Regional Board. The proposed MAA would be a voluntary agreement between the Regional Board and the County.

b) Comment from the County of San Diego 12/08/04:

We appreciate the willingness of your staff to work with the County in developing a draft, but must insist that we be given sufficient time to complete this process or the County may decline to enter in to the MAA.

Regional Board Response:

The proposed MAA between the Regional Board and the County for nutrient reduction in Rainbow Creek will be voluntary. The Regional Board recognizes that the County may ultimately decline to enter into a MAA. In that event the Regional Board will need to move forward with overseeing implementation of the TMDL using its own regulatory authority.

c) Comment from the County of San Diego 12/08/04:

We also believe that the TMDL must be amended to clarify that the County's compliance obligations will be defined in the MAA as agreed by both parties. As such, except for those obligations relating solely to the County's role as a municipal stormwater discharger, detailed descriptions of required County actions should be removed from the TMDL.

Regional Board Response:

The proposed MAA between the Regional Board and the County for nutrient reduction in Rainbow Creek will be voluntary. The Regional Board recognizes that the County may decline to enter into a MAA if they do not agree with the various oversight responsibilities for the nonpoint source nutrient load reduction component of this TMDL defined in the MAA once it is developed.

Section 9.6, County of San Diego Actions, of the draft Technical Report has been revised to clarify that the County, pursuant to CWC §13225(c), will be required to submit a NRMP. However, the County's commitment and level of effort to implement the NRMP will be voluntary and addressed within the proposed Management Agency Agreement (MAA) described in Section 9.5, Item 3 of the Implementation Action Plan.

d) Comment from the County of San Diego 12/08/04:

It is important to recognize that, should the County and the Regional Board fail to come to agreement in the execution of a MAA, the Board's ability to properly exercise its legal authority in requiring specific County actions at a later date would not be affected.

Regional Board Response:

Comment noted.

e) Comment from the County of San Diego 12/28/04:

While this may be technically correct, it fails to recognize the central role of this agreement in ensuring successful implementation of the TMDL, or to consider how this and other key milestones in this process might best be sequenced (i.e., MMA drafting, TMDL adoption, MAA adoption, Nutrient Reduction and Management Plan [NRMP] submittal and implementation, etc.).

Regional Board Response:

The Regional Board envisions the following sequencing: TMDL adoption then TMDL implementation. During implementation, the sequence will likely be MAA development then MAA adoption, during which NRMP development and submittal may occur concurrently. It is anticipated that NRMP implementation will occur after MAA adoption.

f) Comment from the County of San Diego 12/28/04:

The County considers the MAA the primary vehicle for defining the roles, responsibilities, and specific commitments of both parties in implementing this

TMDL. Until such a document exists, at least in draft form, we cannot be sure that either party understands the expectations or likely commitments of the other.

Regional Board Response:

See Regional Board Response 8a of this document.

g) Comment from the County of San Diego 12/28/04:

With respect to MAA content and purpose, it is worth noting that the apparent position of RWQCB staff is that the MAA should define additional commitments by the County over and above the prescriptive compliance assurances already written into Section 9.7 (County of San Diego Nutrient Reduction and Management Plan). The County maintains that such an approach would be unsupported by statute (see specific comments on the limitations of the RWQCB's California Water Code [CWC] §13225(c) authority below), and would negate the stated purpose of the MAA.

Regional Board Response:

See Regional Board Response 6a and e of this document.

h) Comment from the County of San Diego 12/28/04:

The County is willing to consider drafting the MAA after TMDL adoption, but will have no reason to consider entering into a MAA or any other agreement should the prescriptive language currently contained in Section 9.7 remain as is.

Regional Board Response:

See Regional Board Response 6a and e of this document.

i) Comment from the County of San Diego 12/28/04:

Our second concern relates to the intended purpose and specific content of the MAA. Although RWQCB Counsel correctly indicated in his response to Dr. Wright that voluntary actions would be included in the MAA, and that these would be negotiated after the TMDL is adopted, Mr. Richards failed to note that this would occur only after prescriptive requirements are imposed in the TMDL document pursuant to §13225(c). In the County's view, any commitments in excess of our strict legal obligations must be negotiated during the development of the MAA.

Regional Board Response:

See Regional Board Response 6a and e of this document.

9) MANAGEMENT PRACTICES

a) Comment from Caltrans 12/07/04:

Our main concern is this TMDL would require the construction of treatment controls, not yet developed, so that the basic feasibility is unknown.

Regional Board Response:

The Implementation Action Plan section is intentionally written to give the stakeholders the flexibility to develop cost effective nutrient management measures to address the impairment of Rainbow Creek. The 16-year nutrient reduction schedule allows for implementation of needed controls, monitoring of effectiveness of implementation measures, and implementing stronger and more effective controls if necessary.

Delaying the development and implementation of this TMDL until a time when technological treatments are developed is unreasonable when other control measures, such as controlling irrigation water discharge to the creek, consultation with agriculture advisors, and public education, are certainly measures available and can be implemented in a relatively short time period.

b) *Comment from Caltrans 12/07/04:*

TMDL proposes uses of sand filters to be used in existing rights-of-ways, medians or interchange loops to provide treatment. Sand filters are not an appropriate BMP for treatment of nitrogen. Sand filters convert TKN into Nitrate, so they provide a reduction in TKN and an increase in nitrate.

Regional Board Response:

Although the commenter cites no specific section of the Draft Technical Report, the Regional Board is assuming the comment is based on the contents of Economic Consideration Tables in Appendix H.

The narrative on Appendix H of the Draft Technical Reports states:

“While the table implies that Nutrient Management MPs / BMPs will be Implemented before Irrigation and Runoff/Erosion Control Management MPs / BMPs, this is done solely for developing a range of costs. The most appropriate and cost effective MPs / BMPs will vary for each land user/owner based on their operations and existing improvements. MPs / BMPs are typically most effective when a combination of Nutrient, Irrigation, and Runoff/Erosion Control Management MPs / BMPs are considered. Moreover, it is also possible that MPs / BMPs not presented herein would be identified and implemented.”

The purpose of the tables in Appendix H is to show potential actions and associated costs that may be incurred by a property owner. It is not meant to be a prescriptive list of MPs or BMPs that must be a part of the implementation action plan or NRMP.

10) NUMERIC STANDARDS

a) *Comment from the California Avocado Commission 12/01/04:*

Prior to 2002, the Board did not have specific numerical standards that defined conditions in a stream that promoted algal impairments.

Regional Board Response:

The Regional Board disagrees with this statement. This comment was addressed in Section 11.3 of Draft Technical Report and again in Appendix M. In Section 11.3, Analysis of Public Comments on Technical Issues, see Issue 11.3.6. In Appendix M, Response to Public Comments, Public Hearing on May 8, 2002, see Response #6.

b) *Comment from the California Avocado Commission 12/01/04:*

A recent revision to the Basin Plan, however, added numerical reference points against which total phosphorus and (based on the application of a ratio) total nitrogen levels would be gauged, to determine if water quality objectives were exceeded for purposes of enforcement.

Regional Board Response:

The Regional Board disagrees with this statement. This comment was addressed in Section 11.3 of Draft Technical Report and again in Appendix M. In Section 11.3, Analysis of Public Comments on Technical Issues, see Issue 11.3.6. In Appendix M, Response to Public Comments, Public Hearing on May 8, 2002, see Response #6.

c) *Comment from the California Avocado Commission 12/01/04:*

In other words, in the absence of a verified condition of nuisance or a demonstrable adverse effect on beneficial uses, the numerical values should not drive a listing for purposes of a finding of impairment.

Regional Board Response:

The total nitrogen and total phosphorus numeric targets are the biostimulatory water quality objectives. Any exceedance of the water quality objective is considered an impairment to beneficial uses. Water quality monitoring in Rainbow Creek in 2000 showed regular exceedances of the water quality objectives for TN and TP. Moreover, water quality sampling conducted in December 2004 in the creek re-affirm the need for nutrient reduction measures in Rainbow Creek.

d) *Comment from the California Avocado Commission 12/01/04:*

The Rainbow Creek TMDL provides very little evidence of actual documented impairments other than the presence of excessive algae in some limited areas. Of course, the modification of the Basin Plan to include numerical objectives for total phosphorus and a calculated ratio for N:P provides the principal basis for the TMDL. These values must be interpreted in the context of how they result in nuisance conditions or affect beneficial uses. As noted above, the evidence of impact provided in the TMDL is profoundly weak.

Regional Board Response:

See Regional Board Comment Response in 10a and 10c of this document.

e) Comment from Richard Watson 12/08/04:

Tentative Finding 1 claims that the proposed amendment to the Basin Plan was developed in accordance with California Water Code Section 13240 et seq. However, the proposed amendment adds new numeric water quality objectives for biostimulatory substances without complying with all elements of Section 13241 which are applicable when the Regional Board establishes new water quality objectives.

Regional Board Response:

The Regional Board disagrees with this comment. The Rainbow Creek Nutrients TMDL does not establish a new nutrient water quality objective. The biostimulatory water quality objectives are already part of the existing Basin Plan. See Regional Board Comment Response 3e of this document.

f) Comment from Richard Watson 12/08/04:

Tentative Finding 5 claims that the Basin Plan established two numeric objectives for biostimulatory substances when, in fact, it establishes a narrative water quality objective for biostimulatory substances.

Regional Board Response:

See Regional Board Comment Responses 10a and 10c of this document.

g) Comment from Richard Watson 12/08/04:

Tentative Finding 6 claims that concentrations for nutrients in Rainbow Creek routinely exceed applicable water quality objectives for nutrients and nitrate. However, as explained above, there are no numeric water quality objectives for biostimulatory substances in the Basin Plan.

Regional Board Response:

See Regional Board Comment Responses 10a and 10c of this document.

h) Comment from Richard Watson 12/08/04:

Furthermore, there is no definitive evidence that the narrative water quality objectives have been routinely exceeded.

Regional Board Response:

The TMDL is based on the numeric nitrate and biostimulatory substances water quality objectives which are being exceeded. Excessive nutrient concentrations in Rainbow Creek have persisted since the 1980s, when agricultural practices used in Rainbow Valley resulted in significant increases of nitrate concentrations in Rainbow Creek. Although voluntary implementation of MP in the watershed resulted in significant reductions of nutrient concentrations in Rainbow Creek since 1996, nutrient concentrations in the creek still exceed the applicable nutrient water quality objectives.

i) Comment from Richard Watson 12/08/04:

Tentative Finding 8 claims that numeric targets in the proposed TMDL have been set equal to the numeric water quality objectives cited in Finding 5. However, as

explained above, the Basin Plan does not actually establish numeric water quality objectives for water quality objectives.

Regional Board Response:

See Regional Board Comment Responses in 10a and 10c of this document.

j) Comment from Hines Nurseries 12/01/04:

These numbers are excessively conservative, especially when there was no evidence of actual impairments to beneficial uses in 1998-1999 when the average nitrate concentrations was 7.7 mg NO₃/l or 1.7 mg NO₃-N/l and the average organophosphate as phosphorus concentration was 0.6 mg PO₄-P/l.

Regional Board Response:

The water quality objectives are meant to be conservative in order to protect all beneficial uses of a waterbody, including those of waterbodies downstream. In the case of Rainbow Creek, not only is the protection of the Creek important but also the Santa Margarita River, which is a source of drinking water supply for Camp Pendleton, and the Santa Margarita Lagoon, which is on the 303(d) list of impaired waterbodies for eutrophication.

k) Comment from Hines Nurseries 12/01/04:

If the Regional Board concludes that it must adopt a TMDL to meet its obligations to EPA Region 9, it should adopt a TMDL based on adaptive management as recommended by the National Research Council. To do this, the Board could adopt a TMDL with the initial numeric target equal to the numeric nitrate water quality objective in the Basin Plan, define interim numeric targets for biostimulatory substances equal to the average water quality conditions in 1998-1999 as specified on page 12 of the Draft Technical Report, and provide for a reopener to adopt final numeric targets for biostimulatory substances after USEPA Region 9 and the State Water Resources Control Board have completed the Development of Nutrient Criteria in California.

Regional Board Response:

This comment was addressed in Appendix M, Response to Public Comments, Public Hearing on May 8, 2002. See Response #65. Also see the Basin Plan Amendment, Attachment A, Section C which provides a method of recalculation of the TMDL if a new biostimulatory substances water quality objective is designated in the future.

11) NUTRIENT REDUCTION

a) Comment from the California Avocado Commission 12/01/04:

By any measure, this level of pollutant reduction should be considered a major victory and highlights the direction that the Regional Board should pursue in seeking further reductions by embracing the pre-eminent principle of the State's

Non-Point Source Plan which emphasizes the value and priority of voluntary efforts.

Regional Board Response:

This comment was addressed in Appendix M, Response to Public Comments, Public Hearing on May 8, 2002. See Response #3.

12) PUBLIC NOTIFICATION

a) Comment from the California Avocado Commission 12/01/04:

With regard to the Rainbow Creek TMDL, while it appears that the minimal legal and technical notice requirements were met by the San Diego Regional Water Quality Control Board (Board), few growers in the watershed have received actual notice of the Board's pending action.

Regional Board Response:

This comment was addressed in Appendix M of the Draft Technical Report, Response to Public Comment, Public Hearing on May 8, 2002. See response #24.

The Regional Board extended the public comment period 3 weeks from the December 8, 2004 Board Hearing to allow additional time for submittal of written comments. During this extension period, the Regional Board mailed out an additional 370 notifications to property owners in the Rainbow Valley watershed, notified interested parties, published an article and public notification in a North county community paper (Village News, Fallbrook, CA), and made a copy of the Draft Technical Report available at the San Diego County Public Library in Fallbrook, CA.

The extended public comment period closed December 29, 2004 and produced a total of 5 additional comment letters from concerned citizens and stakeholders. The following parties submitted comments:

1. Bert Hayden (12/22/04)
2. Farm Bureau San Diego County (12/24/04)
3. California Avocado Commission (12/27/04)
4. Hines Nursery (12/29/04)
5. County of San Diego (12/29/04)

From the above list of letters submitted, only one letter is from a party that had not previously participated in this TMDL project.

b) Comment from the California Avocado Commission 12/01/04:

The lack of effective notice has caused the Rainbow Creek TMDL to be considered in a vacuum devoid of stakeholder participation. This situation must be rectified prior to the Board's formal adoption of the TMDL.

Regional Board Response:

See Regional Board Comment Response 12a above describing the Regional Board's additional public notification activities.

c) *Comment from the Farm Bureau 11/24/04:*

Throughout the Rainbow Creek TMDL process it has been our concern that the directly affected parties – particularly farmers and property owners – be given ample notice and opportunity to be fully aware of the ramifications of your pending action.

Regional Board Response:

See Regional Board Comment Response 12a above.

d) *Comment from the Farm Bureau 11/24/04:*

Do not close public testimony at the conclusion of your December 8, 2004 public hearing.

Regional Board Response:

The Regional Board closed public testimony at the December 8, 2004 Board Hearing but left the record open for submission of additional written comments for three weeks until December 29, 2004. On February 9, 2005 the Regional Board will be considering 1) the written responses to public comments document developed by Board staff; 2) revisions to the proposed TMDL Basin Plan Amendment made as a logical outgrowth of the record developed at the December 8 hearing and the subsequent December 29 public comment period and 3) adoption of the TMDL Basin Plan amendment. On February 9 the Board will evaluate if any revisions to the Basin Plan Amendment might qualify as sufficiently significant to merit an additional opportunity for public review and comment. Based on this evaluation the Board may, at their discretion, allow interested persons to make oral comment on the proposed changes and proceed with adoption on February 9 or circulate the modified proposal and any additional documentation for an additional structured period of public review.

e) *Comment from the Farm Bureau 11/24/04:*

Notify directly every affected property owner and farmer in the Rainbow Creek area of the pending action.

Regional Board Response:

See Regional Board Comment Response 12a above.

f) *Comment from the Farm Bureau 11/24/04:*

Conduct at least one well-noticed public workshop in a location convenient to the Rainbow Creek area.

Regional Board Response:

Additional workshops will not take place before the February 2005 Board Meeting. However see Regional Board Response 12a above for the additional public notification activities.

g) Comment from the Farm Bureau 11/24/04:

Conclude public testimony and take action on the Rainbow Creek TMDL only after you are secure in the knowledge that the public has had adequate notice and opportunity to participate.

Regional Board Response:

See Regional Board Comment Response from 12a and 12d above.

13) RESPONSIBLE PARTIES

a) Comment from Caltrans 12/07/04:

Our second major concern is that much of the focus of the TMDL, including responsibility for developing and implementing the monitoring program, is placed on the Department even though the Department's contributes to less than 2% of the tributary drainage area.

Regional Board Response:

Caltrans is responsible, under the terms and conditions of their MS4 Storm Water Permit, for ensuring that their operations do not contribute to violations of water quality objectives in Rainbow Creek. Under the terms of the TMDL Implementation Monitoring Plan the Regional Board will direct the County of San Diego and Caltrans to provide a single monitoring plan for Rainbow Creek containing the elements described in Section 10.5 Implementation Monitoring Plan Elements. The Regional Board agrees that the level of Caltrans participation in the monitoring program should be related to the volume and significance of its discharge. The number of monitoring stations in Rainbow Creek assigned to Caltrans should be based on the number of stations needed by Caltrans to demonstrate compliance with the nutrient wasteload allocation and the success of the TMDL in attaining the nutrient water quality objective in the portion of Rainbow Creek affected by its discharge. The Regional Board will provide some guidance to both the County of San Diego and Caltrans on the level of effort each should contribute to the monitoring program in the CWC § 13225 and 13383 investigative orders. The Regional Board may amend these orders at any time to require other nutrient dischargers in the Rainbow Creek watershed to participate in the monitoring program as they are identified on a case-by-case basis.

b) Comment from Caltrans 12/07/04:

In view of this, we do not understand why this TMDL appears to be directed at Caltrans as the only named source rather than at the major contributors of nutrients in the watershed.

Regional Board Response:

The Draft Technical Report is not directed exclusively at Caltrans but is directed at all known point source and nonpoint source dischargers of nutrients in the Rainbow Creek watershed. Construction, maintenance, and operation of State-owned highways are activities classified as point sources of nutrient discharges to Rainbow Creek. Caltrans is the only primary point source discharger in the Rainbow Creek watershed and is assigned a specific nutrient waste load allocation.

The major nonpoint source (NPS) nutrient discharges in the Rainbow Creek watershed result from (1) commercial nurseries, (2) agricultural fields, (3) orchards, (4) parks, (5) residential areas, (6) urban areas, and (7) septic tank disposal system land use activities. These nonpoint sources are assigned a nutrient load allocation.

c) Comment from Caltrans 12/07/04:

Why is Caltrans specifically identified as a source when “urban areas” and “residential areas” which also have discrete discharge points are not identified? If these areas are contributing to water quality problems, the Board certainly can address these areas via the County of San Diego MS4 permit and Phase II permit program. Similarly, the nurseries and other major sources can be identified and assigned specific reductions and allocations.

Regional Board Response:

Caltrans is identified as a point source of nutrients in the Rainbow Valley watershed with nutrient load reductions. Urban and Residential areas are not subject to a NPDES permit and therefore considered a non-point source of nutrients.

The seven land use categories, which include Urban, Residential, and Commercial Nurseries, have been assigned nutrient load reductions and allocations. See Table 6-1 and 6-2 and Appendix F from the Draft Technical Report.

14) TECHNICAL BASIS

a) Comment from Caltrans 12/07/04:

It is premature to issue the TMDL before control technologies are identified. Otherwise, there can be no assurance that the allocations will be attained.

Regional Board Response:

See Regional Board Comment Response 9a of this document.

b) Comment from Caltrans 12/07/04:

The letter indicated District 11 owns 120.3 acres. This value was used for wasteload allocations however the map in Appendix A shows I-15 right of way as 214 acres and 3% of watershed, greater than the 120 acres used for TMDL load allocations.

Regional Board Response:

The correct acreage is 120 acres. The Draft Technical Report has been revised.

c) Comment from Caltrans 12/07/04:

The Departments report CTSW-RT-03-065 has the latest monitoring data for Caltrans highway runoff. These numbers are different than the 1997-1998 data used in the WQPT that was used to determine Caltrans loads. The more appropriate total Nitrogen concentration is 3.13 mg/L and total phosphorus concentration is 0.29 mg/L

Regional Board Response:

The Draft Technical Report has been revised to incorporate the latest monitoring data.

d) Comment from the California Avocado Commission 12/01/04:

The Commission also believes that the Board has chosen the wrong way to address a problem that falls short of constituting a serious nuisance.

Regional Board Response:

The Regional Board disagrees with this statement. This comment was addressed in Section 11.3 of Draft Technical Report. In Section 11.3, Analysis of Public Comments on Technical Issues, see Issue 11.3.4.

e) Comment from the California Avocado Commission:

It is also known that nutrients released during wet weather conditions have a dramatically different biostimulatory effect than during other periods. The nutrient loading at certain periods of the year is not clearly defined in the TMDL. It may be that the nutrient load during wet weather is relatively greater than during dry weather, but has a far less significant effect.

Regional Board Response:

The Regional Board used stream flow data divided into flow tiers to account for the seasonal changes of nutrients carried down the stream. A discussion of the stream flow, seasonal variations, and flow tiers is in Appendix E of the Draft Technical Report.

f) Comment from Richard Watson 12/08/04:

Understanding whether or not Rainbow Creek is over-enriched with nitrogen and/or phosphorus is very complex; a TMDL is not yet suitable for calculation as required by federal regulations.

Regional Board Response:

The Regional Board disagrees with this statement. This comment was addressed in Appendix M, Response to Public Comments, Public Hearing on May 8, 2002. See Response #25.

Also see Regional Board Comment Response 4c of this document.

g) Comment from Richard Watson 12/08/04:

The current draft TMDL has introduced flow data as we requested in 2002, but the sampling used to support the need for the TMDL was not flow weighted. In

fact, sampling was not used to estimate total loadings of nitrogen and phosphorus to the creek.

Regional Board Response:

The purpose of the water quality sampling conducted by the Regional Board was to assess the water quality of the creek. It was not initially designed to estimate the nutrient contribution from the various land use categories. Export coefficients were used to estimate the nutrient contribution from the land use categories.

Background and loading capacity nutrient calculations of the creek did use flow data in estimating nutrient loads.

h) Comment from Richard Watson 12/08/04:

Tentative Finding 9 cites TMDLs for total nitrogen and phosphorus that are incorrectly calculated in the Draft Technical Report.

Regional Board Response:

See Regional Board Comment Responses 4a of this document

i) Comment from Richard Watson 12/08/04:

This finding also claims that the TMDLs are equal to the assimilative or loading capacity of Rainbow Creek. However, a scientific assimilative capacity study was not actually conducted.

Regional Board Response:

This comment was addressed in Appendix M of the Draft Technical Report, Response to Public Comment, Public Hearing on May 8, 2002. See response #49.

j) Comment from Hines Nurseries 12/01/04:

Review of the October 15 Public Review Draft indicates that the proposed TMDLs still do not meet the requirements within the Clean Water Act that only those TMDLs that are “suitable for such calculation” are to be developed.

Regional Board Response:

The Regional Board disagrees with this statement. This comment was addressed in Appendix M, Response to Public Comments, Public Hearing on May 8, 2002. See Response #25.

Furthermore, the USEPA submitted the following statement in a letter dated December 3, 2004:

“The proposed TMDLs meet all federal regulatory requirements and will be approvable when they are submitted to EPA. The TMDLs are based on sound analytical methods that identify reasonable pollutant reductions necessary to attain the existing Basin Plan numeric water quality objectives. The TMDLs are consistent with numerous nutrient TMDLs developed elsewhere in California, including the TMDLs for Los Angeles River, Laguna de Santa Rosa, and Malibu Creek. We are pleased that the TMDLs include waste load allocations to account for future growth in the watershed.”

k) Comment from Hines Nurseries 12/01/04:

As noted in our April 23, 2002 letter, in developing a TMDL for any impaired water body, an assimilative capacity study should first be conducted in order to determine the pollutant load the water body can assimilate before becoming impaired.

Regional Board Response:

This comment was addressed in Appendix M of the Draft Technical Report, Response to Public Comments, Public Hearing on May 8, 2002. See response #49.

15) TECHNICAL REPORT

a) Comment from the County of San Diego 12/08/04:

However, during this period only the County was involved in discussions with your staff, and that interaction ended in October 2003. Between October 2003 and November 2004, significant changes were made to this TMDL; it's only appropriate the County and other parties have adequate time to ensure review of this document is sufficient to adequately consider those changes.

Regional Board Response:

From the period of May 2002 through October 2004, the Regional Board was considering comments submitted by the stakeholders, including input from the County, and incorporating the suggested changes as necessary into the revised draft technical TMDL report. The revised draft report was not ready for public review until October 2004.

As a courtesy to the County, the Regional Board sent revised sections of the draft Rainbow Creek TMDL Draft Technical Report (Chapters 8, 9, and 10) for their review prior to the October 2004 public release.

b) Comment from the California Avocado Commission 12/01/04:

It is inappropriate to suggest that nutrients have caused the “impairment” when no evidence is provided in support of the assertion and when other causes are likely.

Regional Board Response:

The Regional Board already recognized and acknowledged other potential factors in the Draft Technical Report concerning aquatic insects. Section 2.6 of the Draft Technical Report reads:

“Rainbow Creek has an impaired aquatic insect population, which may be related to its elevated nutrient concentrations. The creek’s benthic macroinvertebrate community may be sensitive, in varying degrees, to temperature, DO, sedimentation, scouring, nutrient enrichment and chemical and organic pollution (Giller and Malmqvist 1998, Johnson et al. 1993). Elevated concentrations of nutrients and other pollutants, such as herbicides and pesticides, may cause changes in the aquatic insect community. These changes can

include loss of species diversity, loss of pollutant sensitive species, and an increase in pollutant tolerant species (Waters 1995)."

Referring to Rainbow Creek as impaired for nutrients is appropriate since there exists both historical and recent water quality data from certified analytical laboratories which demonstrates the water quality objectives for both nitrogen and phosphorus are frequently exceeded.

c) Comment from the California Avocado Commission 12/01/04:

Also, the use of the term “impairment” to describe the insect community suggests that there is a formal listing for impairment of insects, which is inaccurate and misleading.

Regional Board Response:

Comment noted.

d) Comment from the California Avocado Commission 12/01/04:

The TMDL also cites a condition of low species diversity as supportive of a degraded ecosystem. There is not mention of a causative factor for this condition, however. Additionally, recent information cited in the TMDL suggests a mixed picture and improvement:

“The creek was “average” in both the September 1998 and November 1998 monitoring events, showing improved species diversity and a more well-distributed community structure with four of five functional feeding groups represented, although it continued to show an absence of sensitive species.”

This suggests that the reductions in nutrients resulting from the Mission Resource Conservation District's voluntary program are yielding ecological dividends.

Regional Board Response:

The complete paragraph from Section 2.6 of the revised Draft Technical Report reads as follows:

“Benthic macroinvertebrate surveys conducted in 1991-92 (Hunsaker II 1992) and in 1998-99 (CDFG 2000a) found an abundance of pollutant tolerant insects and a lack of pollutant sensitive insects. Hunsaker II (1992) found that benthic community indicators in Rainbow Creek were poor compared to other tributaries and the Santa Margarita River. The 1998-99 California Department of Fish and Game surveys indicate that Rainbow Creek was “below average” compared to other tributaries in the watershed in both the May 1998 and May 1999 surveys. Low species diversity, an absence of sensitive species, and a skewed benthic community, with one or two functional feeding groups dominating were observed during these two sampling periods. The creek was “average” in both the September 1998 and November 1998 monitoring events, showing improved species diversity and a more well-distributed community structure with four of five functional feeding groups represented, although it continued to show an absence of sensitive species. Shredding insects, which feed mostly on decomposing coarse particulate organic matter, were completely absent from all four sampling events. Their absence is notable because shredders are usually associated with streams that have an intact riparian canopy, such as exists along most of Rainbow Creek”.

The dominance of pollutant tolerant aquatic insect species in conjunction with the lack of pollution sensitive aquatic insects is an indication that the water quality of the stream is having adverse affects on the benthic communities. The Regional Board agrees that the nutrient water quality in Rainbow Creek has improved since the 1980s; however, recent samples collected by the Regional Board in December 2004 raise questions on the trend of the TN and TP concentrations.

e) Comment from Richard Watson 12/08/04:

Tentative Finding 10 presents allocations and reductions that were erroneously calculated in the Technical Report. Waste load allocations were not assigned to two point sources, a load allocation was not assigned to the largest contribution of nitrogen and phosphorus atmospheric deposition.

Regional Board Response:

For the calculation comment, see Regional Board Comment Response 4a above.

Caltrans is the only identified point source with nutrient waste load allocations. For nutrient discharges in the Rainbow Creek watershed subject to the County of San Diego's MS4 NPDES Storm Water Permit, the County will be directed to require increasingly stringent best management practices, pursuant to the iterative process described in Receiving Water Limitation C.2.a. of the permit, to reduce nutrients discharges in the Rainbow Creek watershed to the maximum extent practicable and restore compliance with the nutrient water quality objective.

The California Department of Forestry and Fire Protection (CDFFP) – Rainbow Conservation Camp does not have an NPDES permit and is not authorized to discharge waste to Rainbow Creek. Accordingly no wasteload allocation is assigned to this discharge. As discussed in Section 8.2.3 of the Draft Technical Report, the percolation ponds at the Camp are suspected of not having the proper separation from groundwater and/or bedrock and the percolated effluent appears to be surfacing down gradient of the ponds and flowing into Rainbow Creek. The Regional Board has previously directed CDFFP, to conduct an investigation of the possible impacts from the Camp's wastewater discharge to the Creek and the results of the investigation are currently under review by the Regional Board for additional follow-up action.

The comment on atmospheric deposition issue is addressed in Regional Board Comment Responses 2a of this document.

f) Comment from Richard Watson 12/08/04:

Tentative Finding 11 does not clearly distinguish between point and nonpoint discharges. Furthermore, two point sources that were identified at the November 17, 2004 staff workshop are not listed.

Regional Board Response:

Section 8.2 and 8.3 of the Draft Technical Report describe in detail the point and non point source dischargers. See Regional Board Comment Response 15e above.

g) Comment from Hines Nurseries 12/01/04:

Section 5.0 of the October 15, 2004 Public Review Draft does not describe a true assimilative capacity analysis, which should include a detailed analysis of chlorophyll and dissolved oxygen in relation to nitrogen and phosphorus content of the water.

Regional Board Response:

Chlorophyll and dissolved oxygen measurement are part of the Implementation Monitoring Plan Elements, Section 10.5 of the Draft Technical Report. See Element #5, Surface Water Quality Parameters and #8, Algal Biomass.

h) Comment from Hines Nurseries 12/01/04:

At the 17 November 2004 workshop, staff made a Powerpoint presentation that indicated that two major changes will be made to the October 15, 2004 Public Review Draft. The first major change was a slide that indicated that staff now recognizes that there are three point sources in the watershed; the Public Review Draft only recognized one.

Regional Board Response:

The Draft Technical Report recognizes all three point source dischargers. Section 8.2, Point Source Dischargers, from the October 15, 2004 Draft Technical Report, lists Caltrans, California Department of Forestry and Fire Protection, and the County of San Diego as point sources. Of the three point sources, only Caltrans has a specified waste load allocation. Regarding the California Department of Forestry and Fire Protection (CDFFP), the Regional Board will issue a CWC § 13267 investigative order to CDFFP requiring them to evaluate if their discharge is contributing to the impairment of Rainbow Creek. Regarding the County as a point source discharger, they will be required to reduce nutrient discharges in accordance with Receiving Water Limitation C.2.a of their MS4 NPDES Storm Water Permit.

i) Comment from Hines Nurseries 12/01/04:

The second major change was a slide that acknowledged that the Basin Plan contain only a narrative water quality objective for biostimulatory substances. The Public Review Draft in one or two places does recognize that the only water quality objective for biostimulatory substances is narrative. However, in other locations the draft asserts that there are numeric water quality objectives for biostimulatory substances. This confusion in the current draft must be eliminated.

Regional Board Response:

The Draft Technical Report has been revised to clarify that there are numeric water quality objectives for biostimulatory substances.

j) Comment from the County of San Diego 12/28/04:

The County has focused its comments on the three draft TMDL sections it believes to be most crucial for addressing its concerns: Sections 8, 9, and 10. Because these suggested changes are extensive, we have not attempted to make parallel edits in earlier sections of the TMDL. To maintain consistency with changes that are made to TMDL Sections 8, 9, and 10, the RWQCB will therefore need to make corresponding edits to Resolution No. R9-2004-0401 and other TMDL sections as applicable.

Regional Board Response:

Corresponding edits and revisions were made to the draft Resolution R9-2005-0036 (formerly R9-2004-0401), Basin Plan Amendment, and sections of the draft Technical Report, based on edits to Sections 8, 9, and 10. However the Regional Board did not accept all edits suggested by the County.

The revisions to the October 15, 2004 version of the Basin Plan Amendment, Resolution, and Draft Technical Report will be made in strikeout mode so that the edits to the document will be apparent. Once revisions are complete, the edited documents will be posted on the Regional Board website for public review.

Comment Letters Submitted on or Before December 8, 2004 Board Hearing.

Bellamore, Tom. 2004. Letter to John Robertus regarding “Comments of the California Avocado Commission on Draft Basin Plan Amendment and Technical Report for Total Nitrogen and Total Phosphorus Total Maximum Daily Loads for Rainbow Creek.” California Avocado Commission, Irvine, CA. December 1, 2004.

Larson, Eric. 2004. Letter to John Minan. Farm Bureau San Diego County, Escondido, CA. November 24, 2004.

Strauss, Alexis. 2004. Letter to John Robertus from US EPA on the Rainbow Creek TMDL. USEPA 9, San Francisco, CA. December 3, 2004.

Van Rhyn, Jon. 2004. Letter to John Minan. County of San Diego Department of Public Works, San Diego, CA. December 8, 2004.

Vargas, Jesus. 2004. Letter to Ben Tobler regarding “Total Maximum Daily Loads (TMDLs) for Total Nitrogen and Total Phosphorus for Rainbow Creek (Technical Report dated 10/15/04). Department of Transportation, District 11. San Diego, CA. December 7, 2004.

Watson, Richard. 2004. Letter to Ben Tobler regarding “Public Review Draft Basin Plan Amendment and Technical Report for Total Nitrogen and Total Phosphorus Total Maximum Daily Loads for Rainbow Creek.” Richard Watson and Associates, Mission Viejo, CA. December 8, 2004.

Westrup, Jesse. 2004. Letter to Ben Tobler regarding “October 15, 2004 Rainbow Creek Nutrients TMDL.” Hines Horticulture, Fallbrook, CA. December 1, 2004

Comment Letters Submitted Before the Written Comment Period Closed on December 29, 2004.

Bellamore, Tom. 2004. Letter to John Robertus regarding “Supplemental Comments of the California Avocado Commission on Draft Basin Plan Amendment and Technical Report for Total Nitrogen and Total Phosphorus Total Maximum Daily Loads for Rainbow Creek.” California Avocado Commission, Irvine, CA. December 27, 2004.

Hayden, Bert¹. 2004. Electronic mail sent to Ben Tobler regarding “Rainbow Creek.” Fallbrook, CA. December 22, 2004.

Larson, Eric. 2004. Letter to John Minan regarding “Rainbow Creek Total Maximum Daily Load Plan.” Farm Bureau San Diego County, Escondido, CA. December 24, 2004.

Van Rhyn, Jon. 2004. Letter to John Minan. County of San Diego Department of Public Works, San Diego, CA. December 28, 2004.

Westrup, Jesse. 2004. Letter to John Minan regarding “Additional Comments on October 15, 2004 Rainbow Creek Nutrients TMDL.” Hines Horticulture, Fallbrook, CA. December 29, 2004

¹The letter from Mr. Hayden did not directly comment on Rainbow Creek TMDL issues. The letter was forwarded to the Watershed Protection Unit to investigate his complaint.